Class Prep (prepare for Friday, February 16)

Make some of the units for the Five Intersecting Tetrahedra described on the salmon handout from class Wednesday. Feel free to team up with another person to work on this if that feels like a good idea. Also note that there's a paper cutter available for public use in the library by the printer, so if you want to just cut your origami paper into thirds with that, go for it!

We've used origami to trisect angles. Check out Robert Lang's angle quintisection. Try it out and come to class ready to discuss what you think of it.

Problems (due Friday, February 23 at the beginning of class)

1. On the A More Complicated Fold handout, we considered the origami move in which we have two lines L_1 and L_2 and two points p_1 and p_2 and we make a crease that puts p_1 and p_2 onto L_2.
   (a) On the back of that handout, we did an activity in which we folded so that a line L_1 hit a point p_1 and we marked where another point p_2 went. The handout claims that this is related to the origami move on the front. Explain how.
   (b) Is there ever more than one way to do the origami move described on the front of the handout; i.e., is there more than one possible way to make a crease that will simultaneously place p_1 onto L_1 and p_2 onto L_2? How do you know?
   (c) We concluded that this orgami move was creating a cubic equation and that this means origami can solve cubic equations. What does this tell us about origami constructible numbers?
   (d) How does this origami move relate to the origami move with which we created a parabola? More specifically, is one of those moves a special case of the other one, and if so, how?

mini-Celebration of Learning Friday

For Friday's mini-Celebration of Learning, you should be able to explain what it means for a number to be constructible and origami constructible, determine if a given number is constructible, and explain what we know origami can do constructability-wise that a straightedge and compass cannot do.